GENERAL/Teleton

MODEL a600/A500

STEREO AMPLIFIER

SERVICE MANUAL

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Specifications are subject to change without notice.

SPECIFICATIONS

ELECTRICAL PERFORMANCE

1. OUTPUT POWER at 1000 Hz, 8Ω, 0.5% THD
: 42W

2. POWER BAND WIDTH

−3 dB (20W, 8Ω, 0.5%)	: 20 Hz～30 kHz
Rated (40W, 8Ω, 0.5%)	: 35 Hz～22 kHz

3. MAXIMUM INPUT SIGNAL (4W, 8Ω, 0.5%)

Phono	: 80 mV
Tuner, Aux, Tape 1, Tape 2	: 8V

4. FREQUENCY RESPONSE (40 Hz～16,000 Hz)

Phono (400 mW, 8Ω)	: ±0.8 dB
Tuner, Aux, Tape 1, Tape 2 (4W, 8Ω)	: ±1 dB

5. TONE CONTROL CHARACTERISTICS (1 kHz, 400 mW, 8Ω)

Treble	: 10 kHz, ±10 dB
Bass	: 100 Hz, +8 dB, −10dB

6. LOUDNESS (1 kHz, 4W, 8Ω at Volume Max.)

Volume Max, −30 dB	: 10 kHz, +6 dB
	: 100 Hz, +10 dB

7. FILTER (1 kHz, 4W, 8Ω at Filter Switch Off)

High Cut Filter	: Cut Off Frequency, 4 kHz, −6 dB/oct
Low Cut Filter	: Cut Off Frequency, 250 Hz, −6 dB/oct

8. INPUT SENSITIVITY (at 1 kHz, 40W, 8Ω) AND INPUT IMPEDANCE (at 1 kHz)

Phono	: 3 mV/47 kΩ
Tuner, Aux, Tape 1, Tape 2	: 200 mV/75 kΩ
MIC	: 3.5 mV/40 kΩ

9. DAMPING FACTOR (at 4W, 8Ω)

1 kHz	: 90
40 Hz～12.5 kHz	: 20

10. MINIMUM VOLUME HUM AND NOISE
: 0.8 mV

11. SIGNAL TO NOISE RATIO (Output 50 mW, 8Ω)

Phono	: 56 dB
Tuner, Aux, Tape 1, Tape 2	: 58 dB

12. CHANNEL SEPARATION (Volume Max., −40 dB)

1 kHz	: 46 dB
250 Hz～10 kHz	: 36 dB

13. CHANNEL GAIN DIFFERENCE (Volume Max., −40 db)

1 kHz	: ≦ 3 dB
250 Hz～6.3 kHz	: ≦ 4 dB

14. TAPE OUTPUT VOLTAGE AND OUTPUT IMPEDANCE (Input: Phono 1 kHz, 3 mV)

Output Voltage	: 30 mV (No-load Voltage)
Output Impedance	: 80 kΩ

15. LOAD IMPEDANCE

Speaker A, B	: 8Ω
Headphone	: 8Ω
Recording	: 47 kΩ

16. POWER SOURCE

Voltage	: 220V
Frequency	: 50 Hz
Consumption	: 220W

17. NET WEIGHT AND DIMENSIONS

Net weight	: 8 kg
Dimensions	: 435 mm (W) × 290 mm (D) × 123 mm (H) (Without Foot and Knob)

ALIGNMENT INSTRUCTIONS

1. QUIESCENT CURRENT ADJUSTMENT

Measure the voltage across the Cement Resistor (0.33Ω 5W) of R647 and R649 for Lch., R648 and R650 for Rch., mounted on MA PCB (PWB-AH) under no signal condition and full counterclockwise position of volume control. Adjust VR605 for Lch. and VR606 for Rch. to obtain 8 mV ± 3 mV. (See Fig. 2.)

2. METER RANGE ADJUSTMENT

Supply input signal of 1 kHz to AUX input.
Adjust volume to obtain output level of — 10 dB reference full output 40 watts (17.9V).
Select — 10 dB meter range and adjust VR607 left and VR608 right channel for 0 dB indication on the respective meters. (See Fig. 1.)

ALIGNMENT POINTS

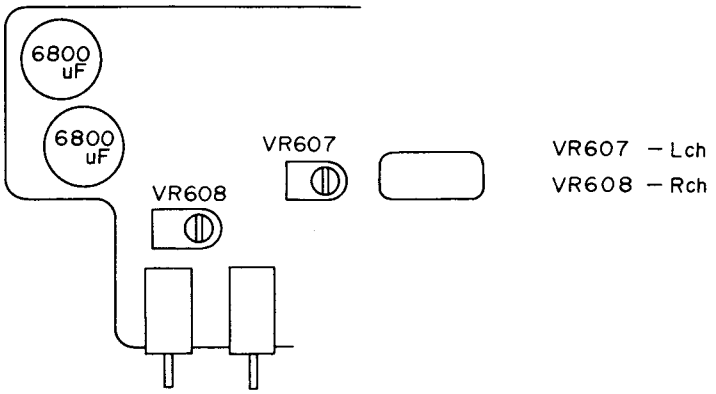
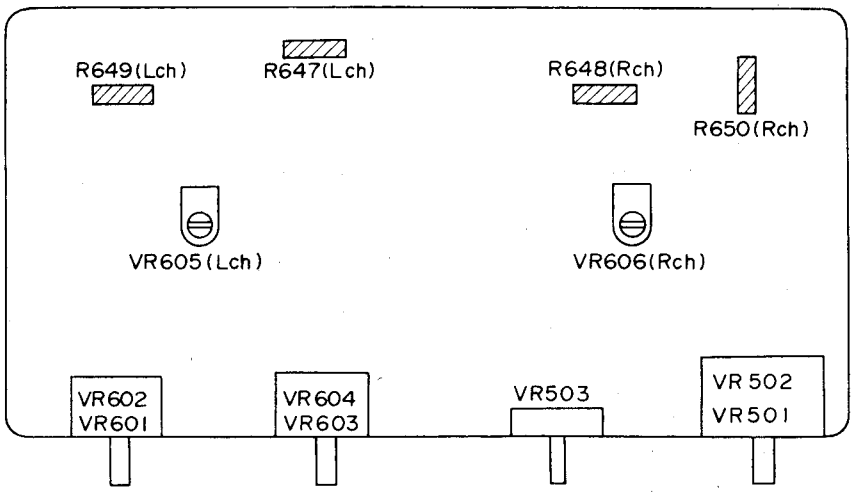
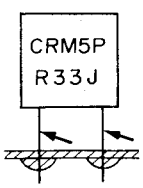


Fig. 1





R647 or R649
R648 or R650

Measure at both sides of lead.

Fig. 2

FUSE REPLACEMENT

Before replacing, be sure to Power Switch off and pull out the Plug of the Power Cord from the Socket.
Be sure to use the specified fuse for replacement.

Fuse Replacement:

Fuses for Primary Circuit and Speaker can be replaced without removing the Metal Cover.

1. Replacement of the Primary Fuse (F801, T2A), see Fig. 3.
2. Replacement of the Speaker Fuses (F805, F806 T3.15A), see Fig. 4.
3. Replace other fuses; F802 (T3.15A), F803 (T3.15A) and F804 (T500 mA), after removing the metal cover.

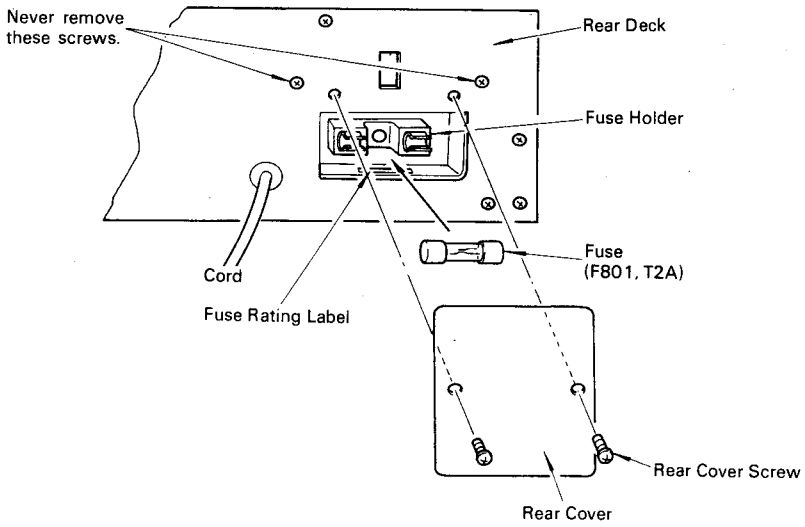


Fig. 3

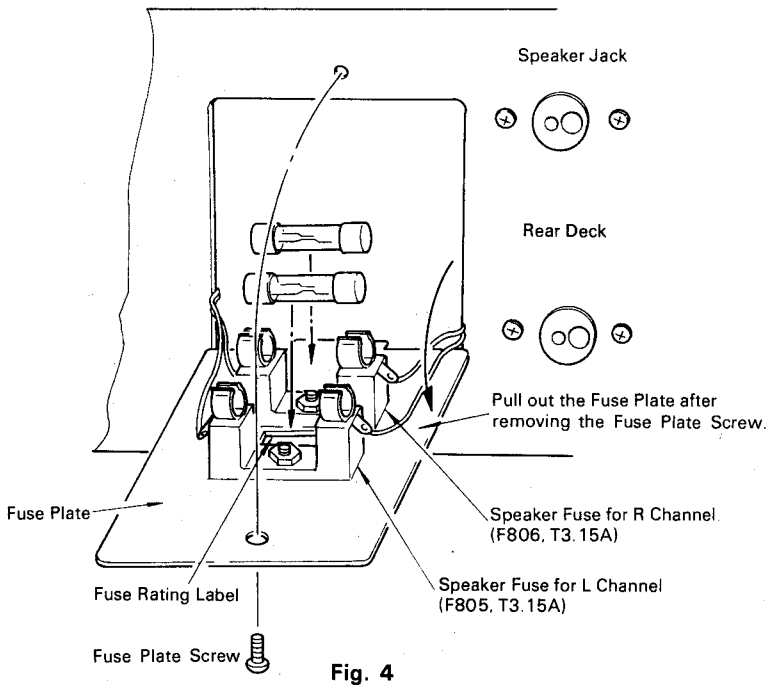

Speaker Jack
Rear Deck
Pull out the Fuse Plate after removing the Fuse Plate Screw.
Fuse Plate
Speaker Fuse for R Channel (F806, T3.15A)
Fuse Rating Label
Speaker Fuse for L Channel (F805, T3.15A)
Fuse Plate Screw

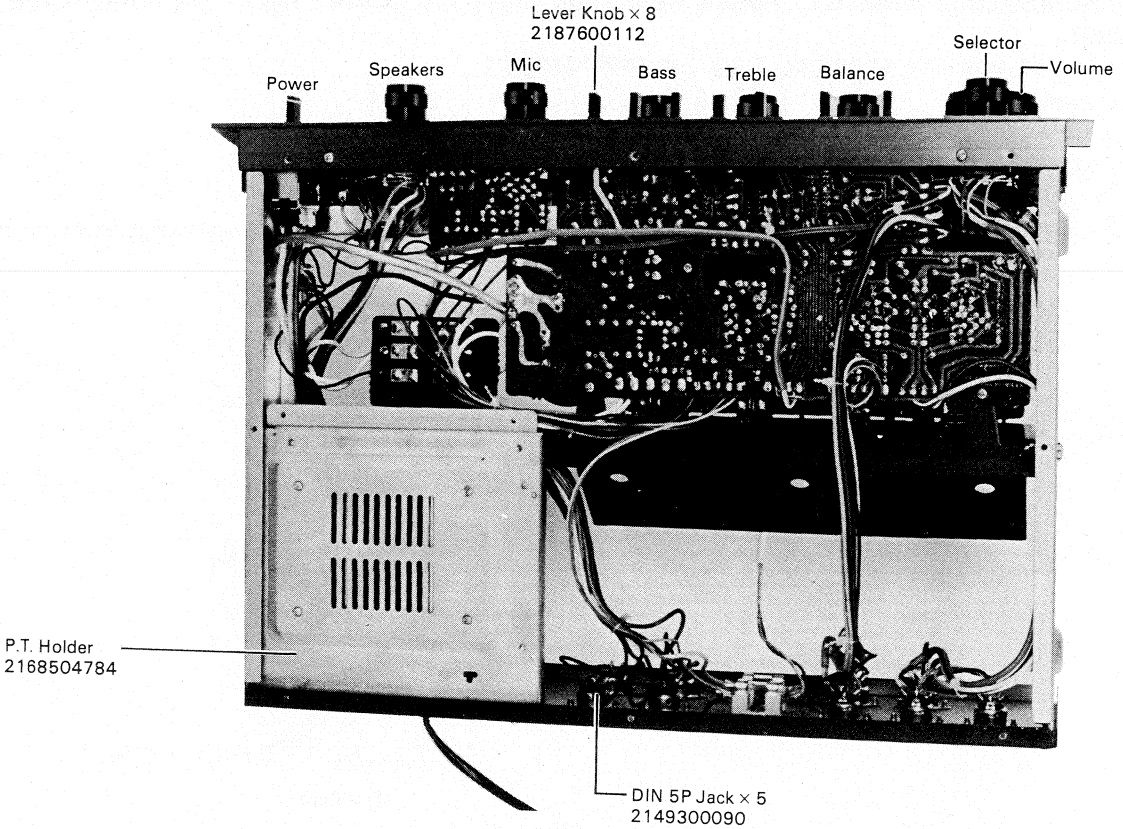
Fig. 4

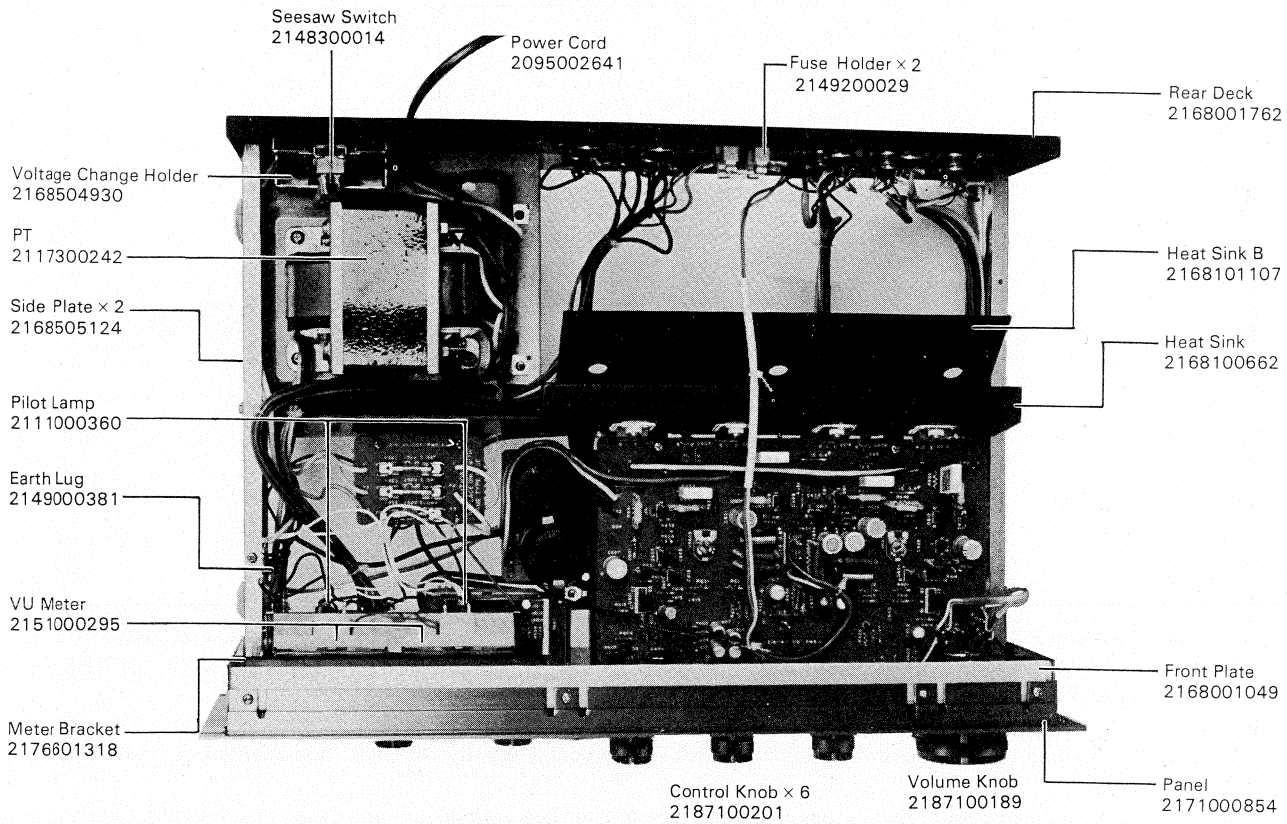
A. **WARNING**: FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER RECOMMENDED PARTS. THESE PARTS ARE IDENTIFIED BY (⚠) ON THE SCHEMATIC DIAGRAM.

B. The manufacturer's warranty and liabilities will be void if any unauthorized modifications, alterations or additions are made.

For replacement purposes, use the same type or specified type of wire and cable, ensuring that the positioning of the wires is followed (especially for power supply circuits). Use of alternative wiring or positioning could result in damage to the set or in a shock or fire hazard.

PARTS LOCATION





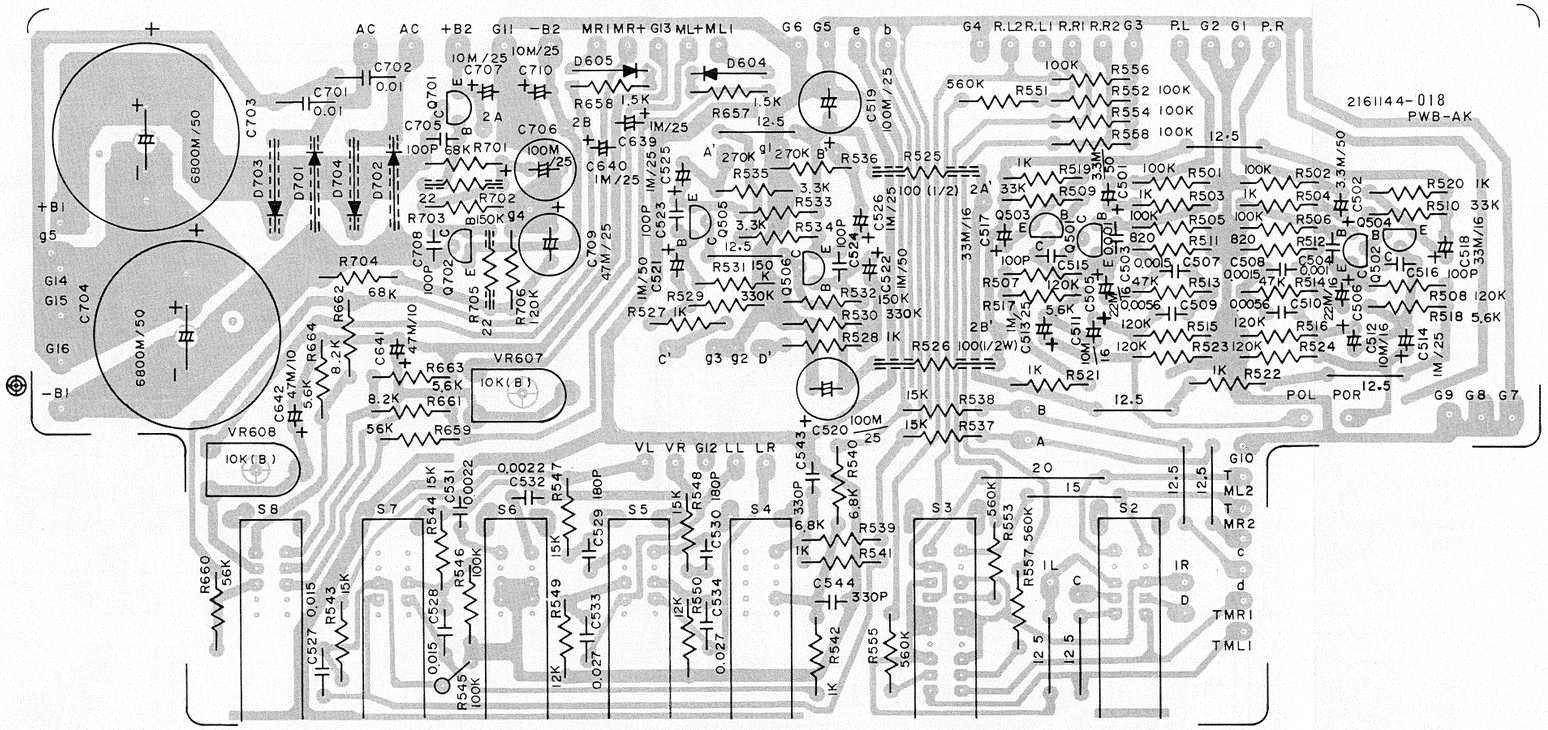
PARTS LIST

Ref. No.	Parts No.	Description
	CABINET ASS'Y	
	2171000854	Panel, AA0605
	2176601232	Meter Window, AA0502
	2176601228	Lever Guide, AA0502
	2176601300	Lever Guide A, AA0502 4 gang
	2176601211	Knob Blind, AA0502
	2168504901	Bottom Plate, AA0502
	2176300555	Foot
	2171000973	Metal Cover, AA0605
	2187600112	Knob, LA5 for Lever
	2187100189	Knob, EA6 for Volume
	2187100201	Knob, EA7-1 for Control
	CHASSIS SUB ASS'Y	
ME801, 802	2151000295	VU Meter, AA0502
	2168504841	Meter Holder, AA0502
	2176601318	Meter Bracket, AA0502
	2176300584	Lamp Holder
	2168100662	Heat Sink, AA0502
	2168101107	Heat Sink B, AA0605
P801 ⚠	2095002641	Power Cord, 2P CEE 2.1m
Q613,614	2104500576	Transistor, 2SD 718-O or
	2104500565	Transistor, 2SD 718-R
Q615,616	2104300431	Transistor, 2SB 688-O or
	2104300427	Transistor, 2SB 688-R
	2107900067	Insulation Washer for Power Transistor
T801 ⚠	2117300242	Power Transformer, AA0605
S801 ⚠	2148400013	Power Switch
	2168504930	V. Change Holder, AA0502
	2149200103	Fuse Holder for AC Pri.
J811	2149300041	Headphone Jack, LJ264
R801,802	2139100484	Metal Oxide Film Resistor, 2W, 220 ohm
S1	2148000040	Rotary Switch for Select
S9	2148000084	Rotary Switch for SP Change
	2168001049	Front Plate, AA0502
J807,808 809,810	2149300647	DIN Jack, 2P CS-224
J801,802 803,804 805	2149300090	DIN Jack, 5P CS-254
	REAR DECK SUB ASS'Y	
	2168001762	Rear Deck, AA0605
	2182400024	Cord Clamp
	2168504809	Fuse Plate, AA0502
	2149200029	Fuse Holder
	2092813289	Decoration Screw
	CHASSIS ASS'Y	
	2168505124	Side Plate, AA0502
	2168504784	P.T. Holder, AA0502
	2168507950	Rear Cover
F802,803 ⚠	2147200015	Fuse, 250V, 4A
F805,806 ⚠	2147200049	Fuse, 250V, 3.15A
F801 ⚠	2147200007	Fuse, 250V, 2A
F804 ⚠	2147200022	Fuse, 250V, 0.5A
	2111000360	Pilot Lamp, 8V, 150mA
	MA PCB ASS'Y	
	2852000513	MA PCB Ass'y, AA0605TE
	2161141014	PWB AH (AI, AJ, AK)
Q607,608 617	2003181508	Transistor, 2SC 1815-O or
	2003181516	Transistor, 2SC 1815-Y
Q605,606	2003222915	Transistor, 2SC 2229-Y
Q601,602	2104000549	Transistor, 2SA 798-G
Q603,604	2003224015	Transistor, 2SC 2240-BL or
	2003224022	Transistor, 2SC 2240-GR
Q609,610	2103000732	Transistor, 2SC 2235-O or
	2103000745	Transistor, 2SC 2235-Y
Q611,612	2104000560	Transistor, 2SA 965-O or
	2104000571	Transistor, 2SA 965-Y

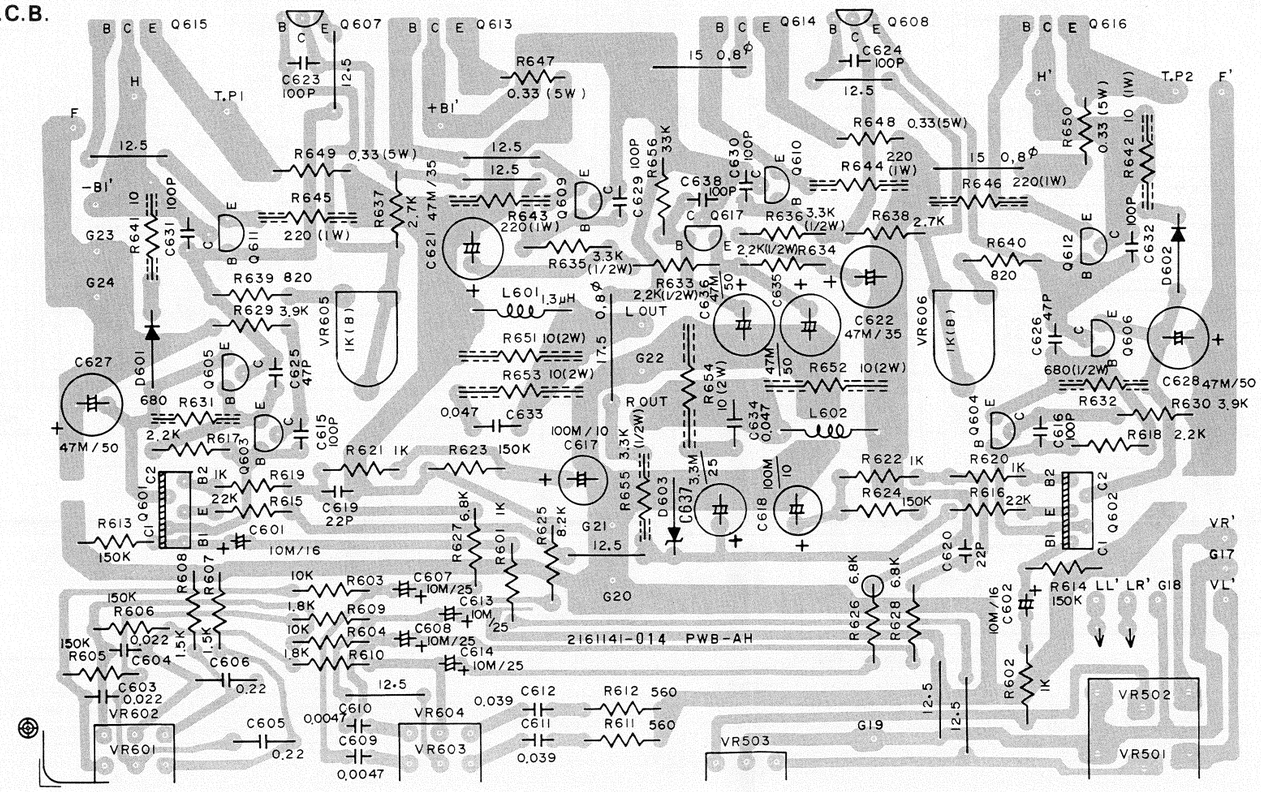
Ref. No.	Parts No.	Description
D603	2108200278	Zener Diode, HZ 12LB-3
D601,602	2109100008	Si-Rectifier, 10D-1
VR605,606	2042110066	Semi-Fixed Variable Resistor, B1k ohm
	2142100029	
VR6012,6034	2143000293	Variable Resistor, C100k ohm × 2 C. Click
VR503	2143000309	Variable Resistor, 4BM 250k ohm × 2 C. Click
VR5012	2143100053	Variable Resistor, 2B 250k ohm × 2 41 Detent
L601,602	2114600003	Choke Coil
R641,642	2137100127	Fusible Resistor, 1W, 10ohm, ±5%
R643,644 645,646	2139015012	Metal Oxide Film Resistor, 1W, 220ohm, ±5%
R651,652	2139100000	Metal Oxide Film Resistor, 2W, 10 ohm, ±5%
R653,654	2139101754	Metal Oxide Film Resistor, 2W, 10 ohm, ±5%
R647,648 649,650	2141400 00	Cement Resistor, 5W, 0.33 ohm, ±10%
	EQ AND PS PCB ASS'Y	
	2852000520	EQ AND PS PCB Ass'y, AA0605TE
	2161144018	PWB AK (AH, AI, AJ)
Q701	2103100262	Transistor, 2SC1384-Q or
	2104500261	Transistor, 2SD438-E
Q702	2104000232	Transistor, 2SA684-Q or
	2104300459	Transistor, 2SB560-E
Q503,504	2103000654	Transistor, 2SC732 TM-BL or
	2103000649	Transistor, 2SC732 TM-GR
Q501,502 505,506	2104000522	Transistor, 2SA 970-BL
D701,702 703,704	2109100055	Si-Rectifier, GP20D
D604,605	2108000012	Ge-Diode, 1N60-P
S4,5,6,7,8	2148400133	Lever Switch, TJ2P2T
S2	2148400146	Lever Switch, TJ2P3T
S3	2148400151	Lever Switch, TJ4P3T
VR607,608	2042110045	Semi-Fixed Variable Resistor, B10k ohm
	2142100095	
C703,704	2130200060	Electrolytic Capacitor, 50V, 6800μF, BF
	2130200071	
C513,514 525,526 639,640	2130801562	Electrolytic Capacitor, 50V, 1μF, LN
R525,526	2137100011	Fusible Resistor, 1/2W, 100 ohm, ±5%
	MIC. PCB ASS'Y	
	2852000243	Mic. PCB Ass'y AA0502TE
	2161142005	Mic. PCB PWB, AI (AH, AJ, AK)
	2168504885	Shield Plate A, AA0502
Q507	2104000522	Transistor, 2SA 970-BL or
	2104000515	Transistor, 2SA 970-GR
Q508	2103000654	Transistor, 2SC 732TM-BL or
	2103000649	Transistor, 2SC 732TM-GR
J806	2149300844	Mic. Jack, HLJ0290
VR504	2143000276	Variable Resistor, B10k ohm
	FUSE PCB ASS'Y	
	2859000353	Fuse PCB Ass'y, AA0502TE
	2161143003	Fuse PCB PWB, AJ (AH, AI, AK)
	2149200095	Fuse Holder, UF-0017

P.C. BOARD

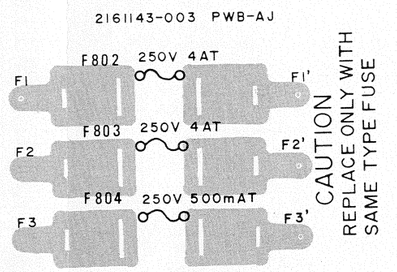
EQ-PS P.C.B.



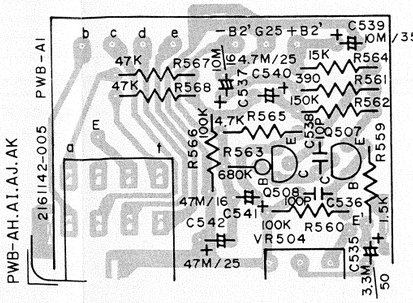
MA P.C.B.



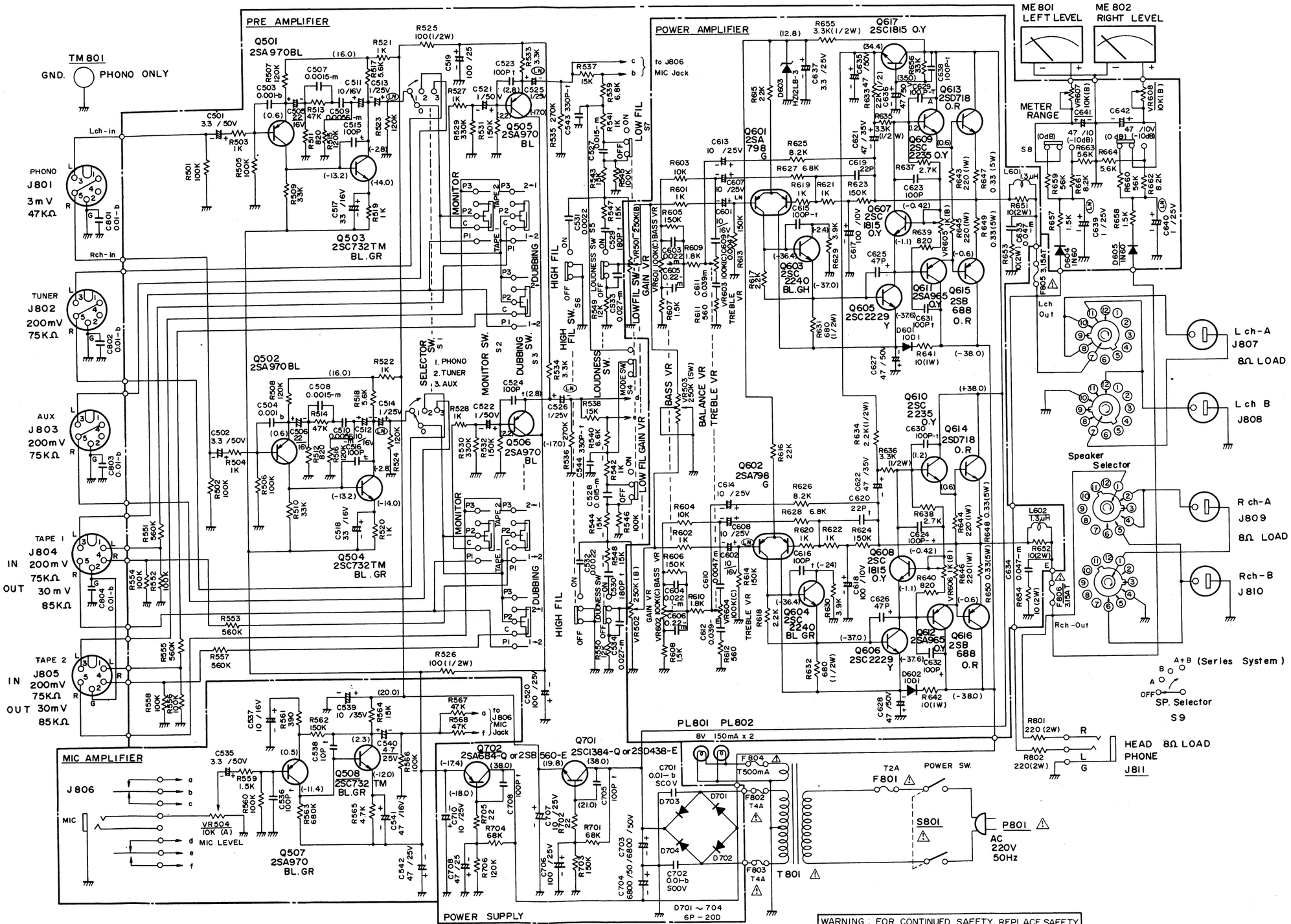
FUSE P.C.B.



MIC. P.C.B.



CIRCUIT DIAGRAM



1) Position of switches ere:
S1 (Function selector): Phono
S2 (Tape Monitor): Source
S3 (Dubbing): off
S4 (Mode): Stereo
S5 (Loudness): off

S6 (High cut Filter): off
S7 (Low cut Filter): off
S8 (Meter Range): off
S9 (Speaker): off

2) All resistance values are indicated in "OHM" (K = 10^3 OHM)

3) All capacitance values are indicated in "μF" (P = 10^{-6})
t : Ceramic Capacitor ± 10%
b : Ceramic Capacitor ± 80%
m : Mylar Capacitor ± 10%

4) This Schematic Diagram is subject to partial change without notice

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